

VTS system of in-innovative navigation GmbH installed at Savannah Harbor, USA

Kornwestheim, July 20th 2009 – in-innovative navigation GmbH has installed a VTS demo system for traffic surveillance on Savannah River.

Already in the beginning of the 19th century, the harbor of Savannah was one of the huge East Coast ocean harbors mainly due to cotton trade. Today, the harbor of Savannah in Georgia still represents a traffic hub as third largest container port in the US, behind Los Angeles and New York. Around 60 international shipping lines call at Savannah Port.



The Georgia Ports Authority (GPA) is in charge for administration of the harbor, including the pelagic harbors Savannah and Brunswick as well as the inland harbors Columbus and Bainbridge.

Not only the ocean harbors of Savannah and Brunswick make Georgia to be a logistic hub, but also the airport of Atlanta flying to 57 countries and transporting 90 millions of travelers per year. After the tragedy of 9/11 in New York, one main aim of the government was to increase security of US harbors, too. Therefore, the GPA will install a network for video surveillance along the Savannah River (Savannah River Intrusion network SRIN).

Another cost efficient and modern method for Harbor surveillance is a state-of-the-art VTS (Vessel Traffic Surveillance) system that detects all objects on the water surface by radar and tracks these objects.

In May 2009, in-innovative navigation GmbH installed such a cost efficient system, based on inland radar technology, at Savannah port. The project was conducted in cooperation with *Centers of Innovation/ Logistics (LINC)*, a department of Georgia Tech. At the moment, the VTS system runs as demonstration system in one of the buildings of Georgia Tech. Radar data are collected from a radar scanner commonly used in inland navigation, which is located at the east end of the island Elba and covers the lower section of Savannah River.



The advantages of radar based surveillance are obvious: First of all, radar technology is independent of light and weather conditions in contrast to video technology. Furthermore, a VTS system as it is available now in Savannah allows defining specific areas directly on the traffic display. These areas may be for example alarm zones: whenever a vessel enters the area predefined, an alarm is generated automatically, either visually or acoustically.

Highly capacity and very reliable software modules of in-innovative navigation GmbH build the demo system: RADARServer for radar data acquisition and a traffic display (RADAR*pilot720°* VTS/AIS) with tracking functions implemented. The tracking algorithm provides highly accurate information about



position and velocity of all objects on the river. Radar data are transmitted via DSL from harbor to the VTS display located at the building of Georgia Tech.

The module RADAR*pilot720°* VTS/AIS combines a powerful traffic display with a modern graphical user interface. At one glance, the observer can recognize the actual traffic situation and he has convenient access to all functions available.

A trouble-free upgrade of the existing system is possible anytime: One might integrate information from AIS base stations that transmit vessel data by AIS (Automatic Identification System) – data like position, size and name of the vessel. The software module MST (MultiSensorTracker) directly integrates AIS data into the display of the traffic centre. Furthermore, MST is able to merge radar data from several radar stations, to filter them and to provide data to the traffic display without undesired redundancy, as soon as the system will be extended by other radar scanners along the Savannah River.

Georgia *Centers of Innovation/Logistics* focuses on the improvement of logistic conditions.



Combining radar and AIS data at an early stage in a traffic centre definitely helps to reduce queue time, and, thereby, to avoid waste of time and energy, because the traffic can be coordinated more efficiently.

Software components of in-innovative navigation GmbH are successfully in operation in several vessel traffic surveillance systems throughout Europe. The system installed in Savannah resembles a reference system for the company in the USA, presumably a first step to take root in the US market.